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EXAMINER	
MARTIN, NICHOLAS A	

ART UNIT	PAPER NUMBER
2154	

DATE MAILED: 07/06/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/923,924	BALDONADO ET AL.	
	Examiner	Art Unit	
	Nicholas A. Martin	2154	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *06 August 2001*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-10 and 23-29* is/are pending in the application.

4a) Of the above claim(s) *11-22* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-10 and 23-29* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *13 November 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *12/3/01 - 5/5/04*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

1. Claims 1-10 and 23-29 are presented for examination. Claims 11-22 have been withdrawn. Claims 23-29 have been added.

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Response to Arguments

3. Applicants' arguments filed on 04/07/05 have been fully considered but they are not persuasive.

4. As per remarks, Applicants' argued that (1) Hefel, Cohen, nor their combination teach determining a prefix for a data flow, as recited in claim 1.

5. As to point (1), Hefel teaches determining a prefix for a data flow (Col. 3, lines 30-35 "...network nodes each comprise one or more decision points within the node, at which point incoming data packets are selectively routed... Such routing decisions are made in response to information in the header of the data packet.").

6. As per remarks, Applicants' argued that (2) Hefel, Cohen, nor their combination teach determining a performance score for a plurality of service provider access links, such as recited in several elements in claim 1.

7. As to point (2), Cohen teaches determining a performance score for a plurality of service provider access links (Col. 4, lines 12-16 "Performance data is collected from

the distributed call center sites...stored in a set of performance data for use...in making future call routing decisions."; Col. 4, lines 19-36 "The distributed call center site... execute stored control programs to control the interfaces and the switch fabric, to provide call distribution functionality..."; Col. 5, lines 23-40 "...taking measurements for each site in periodic intervals...obtain a normalized score for each site. Using normalized scores, a standard deviation is calculated across all of the intervals and used as a summary performance score for the load balancing process...").

8. As per remarks, Applicants' argued that (3) Hefel, Cohen, nor their combination discusses SPALs, or provides any motivation for detecting a current service provider or selecting a new service provider access link, as recited in claim 1.

9. As to point (3), Hefel teaches detecting a current service provider access link for the prefix, the current service provider access link corresponding to a current route to the prefix specified by a routing protocol (Col. 1, lines 49-58 "...information about the state of all the resources of the network is maintained at each node. The information... used to calculate an optimal route between the originating node and the destination node...saved to control the actual routing of data packets to be transmitted..."). Hefel additionally teaches selecting a new service provider access link from the plurality of service provider access links for routing the data flow to the prefix, wherein the new server provider access link is an optimal route (Col. 1, lines 33-60; Col. 4, lines 3-23 "...updating the usage of each link along the route to reflect the new connection. Data

packets may then be transmitted...playing this route in the header of the data packet...").

10. As per remarks, Applicants' argued that (4) Hefel, Cohen, nor their combination teach generating a plurality of performance scores for a plurality of routes from the source node to the destination nodes, each performance score corresponding to an access link from one or more access links.

11. As to point (4), Cohen teaches generating a plurality of performance scores for a plurality of routes, each corresponding to an access link (Col. 4, lines 12-16 "Performance data is collected from the distributed call center sites...stored in a set of performance data for use...in making future call routing decisions."; Col. 4, lines 19-36 "The distributed call center site... execute stored control programs to control the interfaces and the switch fabric, to provide call distribution functionality..."; Col. 5, lines 23-40 "...taking measurements for each site in periodic intervals...obtain a normalized score for each site. Using normalized scores, a standard deviation is calculated across all of the intervals and used as a summary performance score for the load balancing process..."). Hefel teaches a plurality of routes from a source node to the destination node, each corresponding to an access link (Col. 1, lines 49-58 "...information about the state of all the resources of the network is maintained at each node. The information... used to calculate an optimal route between the originating node and the destination node...saved to control the actual routing of data packets to be transmitted..."). Hefel additionally teaches selecting a new service provider access link from the plurality of

service provider access links for routing the data flow to the prefix, wherein the new server provider access link is an optimal route (Col. 1, lines 33-60; Col. 4, lines 3-23 "...updating the usage of each link along the route to reflect the new connection. Data packets may then be transmitted...playing this route in the header of the data packet...").

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

12. Claims 1-2, 9, 23 and 27-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hefel et al. (hereinafter Hefel), US 5,563,875 in view of Cohen et al. (hereinafter Cohen), US 6,633,640.

13. As per claim 1, Hefel teaches a method of routing data flow traversing one or more routers in an internetwork, wherein the one or more routers are coupled to a plurality of service provider access links, the method comprising:

determining a prefix for the data flow (Col. 3, lines 34-35);

calculating for the plurality of service provider access links, each of which from a router of the one or more routers to the prefix via a distinct service provider access link from the plurality of service provider access links (Col. 4, lines 3-9, lines 15-23);

detecting a current service provider access link for the prefix, the current service provider access link corresponding to a current route to the prefix specified by a routing protocol (Col. 1, lines 49-58); and

selecting a new service provider access link from the plurality of service provider access links for routing the data flow to the prefix, wherein the new server provider access link is an optimal route (Col. 1, lines 35-37, lines 49-58).

14. Hefel does not teach a method of routing comprising:

calculating a plurality of performance scores for the plurality of service provider access links, each of the performance scores indicating performance of a route from a router;

the current service provider access link having a performance score from the plurality of service provider access links; and

the new service provider access link has a performance score from a plurality of performance scores.

15. Cohen teaches a method of routing data flow, comprising:

calculating a plurality of performance scores for the plurality of service provider access links, each of the performance scores indicating performance of a route from a router (Col. 4, lines 19-30; Col. 5, lines 23-32);

the current service provider access link having a performance score from the plurality of service provider access links (Col. 4, lines 12-16);

the new service provider access link has a performance score from a plurality of performance scores (Col. 4, lines 12-16).

16. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Cohen and Hefel because they both deal with routing analysis for communicating data. Furthermore, the teaching of Cohen to allow calculating a plurality of performance scores for the plurality of service provider access links, each of the performance scores indicating performance of a route from a router; the current service provider access link having a performance score from the plurality of service provider access links; the new service provider access link has a performance score from a plurality of performance scores would improve the functionality of Hefel's system by allowing for more pertinent and additional data to influence routing information.

17. As per claim 2, Hefel does not explicitly teach the method of claim 1, wherein the plurality of performance scores is at least partially dependent upon delay measurements across the plurality of service provider access links.

18. Hefel teaches a method wherein protocol identifies delay measurements across the plurality of service provider access links (Col. 2, lines 32-35).

19. Cohen teaches a method wherein the plurality of performance scores is at least partially dependent upon delay measurements across the plurality of service provider access links (Col. 4, lines 12-16; Col. 5, lines 23-32).

20. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Cohen and Hefel because they both deal with delay measurements across a plurality of links. Furthermore, the teaching of

Cohen to allow wherein the plurality of performance scores is at least partially dependent upon delay measurements across the plurality of service provider access links would improve functionality of Hefel's system by allowing for more pertinent and added data to influence routing information when dealing with delays across a network.

21. As per claim 9, Hefel does not explicitly teach the method of claim 1, wherein the plurality of performance scores is at least partially dependent upon load measurements.

22. Cohen teaches a method wherein the plurality of performance scores is at least partially dependent upon load measurements (Col. 4, lines 12-16; Col. 12, lines 10-15).

23. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Cohen and Hefel because they both deal with utilizing data to rout information over a network. Furthermore, the teaching of Cohen to allow wherein the plurality of performance scores is at least partially dependent upon load measurements improves the functionality of Hefel's system by allowing for a wider range of data analysis to influence routing procedure when dealing with transmission of information across a network.

24. As per claim 23, Hefel teaches the method of claim 1, further comprising transmitting the selected new service provider access link to one or more routers (Col. 3, lines 41-49).

25. As per claim 27, Hefel teaches a method of routing from a source node to a group of destination nodes having a common prefix comprising (Col. 1, lines 49-58; Col. 3, lines 34-35):

selecting a new service provider access link from the plurality of service provider access links for routing the data flow to the prefix, wherein the new server provider access link is an optimal route (Col. 1, lines 33-60; Col. 4, lines 3-23).

26. Hefel does not teach a method of routing comprising:

generating a plurality of performance scores for a plurality of routes, each corresponding to an access link; and

determining a performance score for a plurality of service provider access links.

27. Cohen teaches a method of routing comprising:

generating a plurality of performance scores for a plurality of routes, each corresponding to an access link (Col. 4, lines 12-16; Col. 4, lines 19-36; Col. 5, lines 23-40); and

determining a performance score for a plurality of service provider access links (Col. 4, lines 12-16; Col. 4, lines 19-36; Col. 5, lines 23-40).

28. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Cohen and Hefel because they both deal with utilizing data to rout information over a network. Furthermore, the teaching of Cohen to allow generating a plurality of performance scores for a plurality of routes, each corresponding to an access link; and determining a performance score for a

plurality of service provider access links would improve the functionality of Hefel's system by assessing the data relevant to the performance scores and allocating access links for routing procedure to create the most efficient and fastest transmission scheme over the network.

29. As per claim 28, Hefel teaches the method of claim 27, further comprising transmitting data related to a route containing the selected access link to the one or more access links (Col. 3, lines 41-58).

30. Claims 3-8 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hefel et al. (hereinafter Hefel), US 5,563,875 in view of Cohen et al. (hereinafter Cohen), US 6,633,640, in further view of Trans et al. (hereinafter Trans), US 2003/0016770 and Adams, Jeffrey B (hereinafter Adams) US 2002/0124100.

31. As per claim 3, Hefel does not explicitly teach the method of claim 1, wherein the plurality of performance scores is at least partially dependent upon jitter measurements across the plurality of service provider access links.

32. Cohen teaches a method wherein a plurality of performance scores is dependent upon measurements across a plurality of service provider access links (Col. 4, lines 12-16).

33. Trans teaches a method wherein measurements are taken dependent upon jitter measurements (Paragraph [0387]).

34. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Trans, Cohen and Hefel because they all deal with the channel/route optimization to increase functionality over a network. Furthermore, the teachings of Trans to allow wherein measurements are taken dependent upon jitter measurements and Cohen to allow wherein a plurality of performance scores is dependent upon measurements across a plurality of service provider access links would improve the functionality and effectiveness of Hefel's system increase the performance and data rate information of each channel/route.

35. As per claim 4, Hefel does not explicitly teach the method of claim 1, wherein the plurality of performance scores is at least partially dependent upon loss measurements across the plurality of service provider access links.

36. Cohen teaches a method wherein a plurality of performance scores is dependent upon measurements across a plurality of service provider access links (Col. 4, lines 12-16).

37. Trans teaches a method wherein measurements are taken dependent upon loss measurements (Paragraphs [0213], [0575] and [0580]).

38. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Trans, Cohen and Hefel because they all deal with the channel/route optimization to identify signal functionality over a network. Furthermore, the teachings of Trans to allow wherein measurements are taken dependent upon loss measurements and Cohen to allow wherein a plurality of

performance scores is dependent upon measurements across a plurality of service provider access links would improve the functionality and effectiveness of Hefel's system by allowing for identification of lost signals to be added to performance measurements in order to increase the performance and data rate information of each channel/route.

39. As per claim 5, Hefel does not explicitly teach the method of claim 1, wherein each of the plurality of performance scores comprises a scalar value.

40. Cohen teaches a method wherein a plurality of performance scores is dependent upon measurements across a plurality of service provider access links (Col. 4, lines 12-16).

41. Trans teaches a method wherein measurement values comprise of a scalar value (Paragraph [0577]).

42. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Trans, Cohen and Hefel because they all deal with the channel/route optimization to identify signal functionality over a network. Furthermore, the teachings of Trans to allow wherein measurements comprise of a scalar value and Cohen to allow wherein a plurality of performance scores is dependent upon measurements across a plurality of service provider access links would improve the functionality and effectiveness of Hefel's system by allowing for related quantities, when properly applied, to provide better insight into the quality of each route and signal in order to assess each performance measurement.

43. As per claim 6, Hefel does not explicitly teach the method of claim 5, wherein the plurality of performance scores is customized for HTTP traffic.

44. Cohen teaches a method wherein a plurality of performance scores is dependent upon measurements across a plurality of service provider access links (Col. 4, lines 12-16).

45. Adams teaches a method wherein measurement values are customized for HTTP traffic (Paragraphs [0013], [0104] and [0218]).

46. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Adams, Cohen and Hefel because they all deal with the data transmission over a network. Furthermore, the teachings of Adams to allow wherein measurement values are customized for HTTP traffic and Cohen to allow wherein a plurality of performance scores is dependent upon measurements across a plurality of service provider access links would improve the functionality and effectiveness of Hefel's system by allowing for more pertinent and additional data to influence routing information.

47. As per claim 7, Hefel does not explicitly teach the method of claim 5, wherein the plurality of performance scores is customized for video traffic.

48. Cohen teaches a method wherein the plurality of performance scores is customized for video traffic (Col. 3, lines 39-48; Col. 4, lines 12-16).

49. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Cohen and Hefel because they both

deal with utilizing data to rout information over a network. Furthermore, the teaching of Cohen to allow wherein the plurality of performance scores is customized for video traffic improves the functionality of Hefel's system by allowing for a wider range of data types to influence routing information when dealing with transmission across a network.

50. As per claim 8, Hefel does not explicitly teach the method of claim 5, wherein the plurality of performance scores is customized for VoIP traffic.

51. Cohen teaches a method wherein the plurality of performance scores is customized for VoIP traffic (Col. 3, lines 39-48; Col. 4, lines 12-16).

52. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Cohen and Hefel because they both deal with utilizing data to rout information over a network. Furthermore, the teaching of Cohen to allow wherein the plurality of performance scores is customized for VoIP traffic improves the functionality of Hefel's system by allowing for a wider range of data types to influence routing information when dealing with transmission across a network.

53. As per claim 26, Hefel does not explicitly teach the method of claim 5, wherein each performance score from the plurality of performance scores is customized for any one of a plurality of customer-selectable applications selected from the group consisting of a Web-based application, a voice application, and a video application.

54. Cohen teaches a method wherein a plurality of performance scores is dependent upon measurements across a plurality of service provider access links and customized

for any one of a plurality of customer-selectable applications consisting of voice application (Col. 4, lines 12-16; Col. 8, lines 13-67).

55. Trans teaches a method wherein customer-selectable applications consist of Web-based application, a voice application and a video application (Abstract; Paragraphs [0012-0013], [0029] and [0033]).

56. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Trans, Cohen and Hefel because they all deal with the channel/route optimization to identify signal functionality over a network. Furthermore, the teachings of Trans to allow wherein customer-selectable applications consist of Web-based application, a voice application and a video application and Cohen to allow wherein a plurality of performance scores is dependent upon measurements across a plurality of service provider access links and customized for any one of a plurality of customer-selectable applications consisting of voice application would improve the functionality and effectiveness of Hefel's system by relating pertaining scores to relevant applications in order for the customer to select the data route and transmission procedure in reference to a particular application.

57. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hefel et al. (hereinafter Hefel), US 5,563,875 in view of Cohen et al. (hereinafter Cohen), US 6,633,640, in further view of Flockhart et al. (hereinafter Flockhart), US 5,754,639.

58. As per claim 10, Hefel does not explicitly teach the method of claim 1, wherein the plurality of performance scores is at least partially dependent upon user configurable weights.

59. Cohen teaches a method wherein a plurality of performance scores is dependent upon measurements across a plurality of service provider access links (Col. 4, lines 12-16).

60. Flockhart teaches a method wherein dealing with information transmission is dependent upon configurable weights (Col. 3, lines 14-19; Col. 5, lines 46-58).

61. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Flockhart, Cohen and Hefel because they all deal with the data transmission over a network. Furthermore, the teachings of Flockhart wherein dealing with information transmission is dependent upon configurable weights and Cohen to allow wherein a plurality of performance scores is dependent upon measurements across a plurality of service provider access links would improve the functionality and effectiveness of Hefel's system by allowing for weighted information to influence routing data in order to transmit data within the shortest period of time.

62. Claims 24-25 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hefel et al. (hereinafter Hefel), US 5,563,875 in view Winckles et al. (hereinafter Winckles), US 6,829,221.

63. As per claim 24, Hefel does not explicitly teach the method of claim 23, wherein the selected new service provider access link is transmitted using a Border Gateway Protocol message.

64. Winckles teaches a method wherein the selected new service provider access link is transmitted using a Border Gateway Protocol message (Col. 3, lines 51-56).

65. It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings of Winckles and Hefel because both deal with developing and managing routes within a communication network. Furthermore, the teaching of Winckles to allow wherein the selected new service provider access link is transmitted using a Border Gateway Protocol message would improve the functionality and efficiency of Hefel's system by dynamically determining the optimum and preferred data route over a network.

66. As per claim 25, Hefel does not explicitly teach the method of claim 1, wherein selecting a new service provider access link comprises comparing a best route to a default BGP route.

67. Winckles teaches a method wherein selecting a new service provider access link comprises comparing a best route to a default BGP route (Abstract; Col. 4, lines 4-30).

68. It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings of Winckles and Hefel because both deal with developing and managing routes within a communication network. Furthermore, the teaching of Winckles to allow wherein selecting a new service provider access link

comprises comparing a best route to a default BGP route would improve the functionality of Hefel's system so that the performance scores in reference to the best route can be utilized to determine the preferred route to a standard set for the particular network thus guaranteeing the most efficient possible transmission.

69. As per claim 29, Hefel does not explicitly teach the method of claim 28, wherein the data comprises network layer reachability information.

70. Winckles teaches a method wherein the data comprises network layer reachability information (Col. 7, lines 56-61).

71. It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings of Winckles and Hefel because both deal with developing and managing routes within a communication network. Furthermore, the teaching of Winckles to allow wherein the data comprises network layer reachability information would improve the functionality of Hefel's system by allowing for items to be converted into the proper update request format in order for the routers to process the information and allocate ideal transmission access links.

Response to Amendment

72. Examiner acknowledges withdrawal of claims 15-17. Claims 15-17 were rejected pertaining to 35 U.S.C. § 112, second paragraph and is now considered moot. Objection has been withdrawn.

73. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nicholas Martin whose telephone number is (571) 272-3970. The examiner can normally be reached on Monday - Friday 8:30 a.m. - 5:30 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John A. Follansbee can be reached on (571) 272-3964. The fax phone number for the organization where this application or proceeding is assigned is 571-273-3970.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Nicholas Martin
June 9, 2005

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